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UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/248,935 05/25/94 BATES

J 957X7

BERLINSKI, E.

EXAMINER

DIM1/1128  
GEORGE L. CRAIG  
MARTIN MARIETTA ENERGY SYSTEMS, INC.  
P. O. BOX 2009  
OAK RIDGE, TN 37831-8243

ART UNIT	PAPER NUMBER
3	1102

DATE MAILED: 11/28/94

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

This application has been examined  Responsive to communication filed on \_\_\_\_\_  This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1.  Notice of References Cited by Examiner, PTO-892.
2.  Notice of Draftsman's Patent Drawing Review, PTO-948.
3.  Notice of Art Cited by Applicant, PTO-1449.
4.  Notice of Informal Patent Application, PTO-152.
5.  Information on How to Effect Drawing Changes, PTO-1474.
6.  \_\_\_\_\_

Part II SUMMARY OF ACTION

1.  Claims 27-29 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2.  Claims \_\_\_\_\_ have been cancelled.

3.  Claims \_\_\_\_\_ are allowed.

4.  Claims 27-29 are rejected.

5.  Claims \_\_\_\_\_ are objected to.

6.  Claims \_\_\_\_\_ are subject to restriction or election requirement.

7.  This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8.  Formal drawings are required in response to this Office action.

9.  The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84, these drawings are  acceptable;  not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10.  The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been  approved by the examiner;  disapproved by the examiner (see explanation).

11.  The proposed drawing correction, filed \_\_\_\_\_, has been  approved;  disapproved (see explanation).

12.  Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has  been received  not been received  been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.

13.  Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14.  Other

EXAMINER'S ACTION

**Drawings**

The applicants are requested to supply the drawings as supplied in the parent application S.N. 921538, now U.S. Patent No. 5338625, which are missing from the present divisional application.

**Specification**

1. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to provide an adequate written description of the invention, as failing to adequately teach how to make and/or use the invention, for failing to present the best mode of carrying out the invention and for failing to provide support for the invention as is claimed.

The specification as written does not disclose what the optically transparent materials are that are used for the anode, cathode, electrochromic layer and the electrolyte layer. The only recitation to an electro-optic device appears at page 8,

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line 17-24. There has not been found by the examiner anything to suggest that the electrodes and electrochromic layer of the thin layered battery disclosed in the specification are the same materials as those used in the electro optical device and that these materials are in fact optically transparent. There is also no disclosure that the electrolyte of oxynitride lithium is optically transparent, even though the applicants specification disclose that it may be used in an electro-optical device. There is also no discussion of the particular order in which the layers are laid down with respect to the electro-optical device.

*Claim Rejections - 35 USC § 112*

2. Claims 27-29 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.
3. Claims 27-29 are rejected under 35 U.S.C. § 112, first paragraph, as the disclosure is enabling only for claims limited an anode, an electrolyte, a cathode and an electrochromic layer which may or may not be optically transparent. See M.P.E.P. §§ 706.03(n) and 706.03(z).

*Allowable Subject Matter*

4. Claim 27 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. § 112.

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5. Claims 28-29 would be allowable if rewritten to overcome the rejection under 35 U.S.C. § 112 and to include all of the limitations of the base claim and any intervening claims.

6. Claims 27-29 are allowable over the prior art of record.

7. The following is an Examiner's statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach the key feature of the applicant's instant invention which is an electrolyte containing nitrogen which is used to form the electrochromic device. The addition of nitrogen into the solid electrolyte significantly increases the conductivity. Therefore, even though the construction of the electrochromic device is the same as those of the prior art inventions, the use of an electrolyte utilizing nitrogen to increase the conductivity is not known.

*Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cheshire (5206756) teaches an electrochromic device which comprises two conductive electrodes separated by a solid electrolyte and an electrochromic material. The device is shown to use optically transparent materials in its construction.

Lampert discloses an electrochromic optical switching device which is layered in the following order: a transparent electrical

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-5-

Art Unit: 1102

conductor, an electrochromic layer, an ionically conductive insulating layer (electrolyte), an organo-sulfur electrode layer, and a transparent conductor layer.

The above prior art however, does not disclose the use of an electrolyte containing nitrogen to increase the conductivity.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce Bell whose telephone number is (703) 308-2527.

*Bruce Bell*

Bruce Bell  
Patent Examiner  
Art Unit 1102

BFB  
November 21, 1994

18/248935



## REQUEST FOR FILING A PATENT APPLICATION UNDER 37 CFR 1.60

(2-92)

DOCKET NUMBER <i>101-1457-X-7</i>	ANTICIPATED CLASSIFICATION OF THIS APPLICATION		PRIOR APPLICATION EXAMINER S. Barts	ART UNIT 1204
	CLASS 29	SUBCLASS 280		

Address to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

This is a request for filing a  continuation  divisional application under 37 CFR 1.60, of pending prior application number 07/921,538 filed on July 29, 1992 entitled THIN FILM BATTERY AND METHOD FOR MAKING SAME.

1. Enclosed is a copy of the latest inventor-signed prior application, including a copy of the oath or declaration showing the original signature or an indication it was signed. I hereby verify that the attached papers are a true copy of the latest signed prior application number 07/921,538, and further that all statements made herein of my own knowledge are true; and further that these statements were made with the knowledge that willful false statements and the like are made punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the application or any patent issuing thereon.

CLAIMS	(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) CALCULATIONS
	TOTAL CLAIMS	3 - 20 =	0	x \$22.00 =	\$ .00
	INDEPENDENT CLAIMS	1 - 3 =	0	x \$74.00 =	\$ .00
	MULTIPLE DEPENDENT CLAIMS (if applicable)			x\$230.00 =	.00
				BASIC FEE	\$ 710.00
				Total of above Calculations =	\$ 710.00
	Reduction by 50% for filing by small entity (Note 37 CFR 1.9, 1.27, 1.28)				
				TOTAL	\$ 710.00

2.  A verified statement to establish small entity status under 37 CFR 1.9 and 1.27  
 is enclosed.  
 was filed in prior application number \_\_\_\_/\_\_\_\_ and such status is still proper and desired (37 CFR 1.28(a)).
3.  The Commissioner is hereby authorized to charge any fees which may be required under 37 CFR 1.16 and 1.17, or credit any overpayment to Deposit Account No. 13-1958. A duplicate of this sheet is enclosed.
4.  A check in the amount of \$ \_\_\_\_\_ is enclosed.

(2-92)

[Page 1 of 2]

Patent and Trademark Office;  
U.S. DEPARTMENT OF COMMERCE

(REQUEST FOR FILING A PATENT APPLICATION UNDER 37 CFR 1.60, PAGE 2)

(2-92)



5.  Cancel in this application original claims 1-26 and 30 of the prior application before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)

6.  Amend the specification by inserting before the first line the sentence: "This application is a  continuation  division of application number 07/921,538 filed July 29, 1992 (status, abandoned, pending, etc.)."

7.  Transfer the drawings from the pending prior application to this application and abandon said prior application as of the filing date accorded this application. A duplicate copy of this sheet is enclosed for filing in the prior application. (May only be used if signed by person authorized by 37 CFR 1.138 and before payment of issue fee).

8.  New formal drawings are enclosed.

9.  Priority of foreign application number \_\_\_\_\_, filed on \_\_\_\_\_ in \_\_\_\_\_ is claimed under 35 U.S.C. 119.  
 The certified copy has been filed in prior application number \_\_\_\_\_ / \_\_\_\_\_ and filed \_\_\_\_\_.

10.  A preliminary amendment is enclosed.

11.  The prior application is assigned of record to Martin Marietta Energy Systems, Inc..

12.  Also enclosed:

13.  The power of attorney in the prior application is to: George L. Craig.  
a.  The Power of attorney appears in the original papers in the prior application.  
b.  Since the power does not appear in the original papers, a copy of the power in the prior application is enclosed.  
c.  Address all future correspondence to: (May only be completed by application, or attorney or agent of record.)

George L. Craig, Esq.  
Martin Marietta Energy Systems, Inc.  
Post Office Box 2009  
Oak Ridge, Tennessee 37831-8243  
Registration No. 29,293

24 May 1994  
Date

*George L. Craig*  
Signature

George L. Craig, Reg. No. 29,293  
Typed or printed name

Inventor(s)  
 Assignee of complete interest  
 Attorney or agent of record  
 Filed under 37 CFR 1.34(a)  
Registration number of acting under 37 CFR 1.34(a) \_\_\_\_\_

(2-92)

[Page 1 of 2]

Patent and Trademark Office;  
U.S. DEPARTMENT OF COMMERCE

**PATENT APPLICATION FEE DETERMINATION RECORD**

Effective October 1, 1992

Application or Docket Number  
*248935*

**CLAIMS AS FILED - PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE		
TOTAL CLAIMS	3	minus 20 = *
INDEPENDENT CLAIMS	1	minus 3 = *
• MULTIPLE DEPENDENT CLAIM PRESENT		

\* If the difference in column 1 is less than zero, enter "0" in column 2

**CLAIMS AS AMENDED - PART II**

(Column 1)

(Column 2)

(Column 3)

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus ** 20 =
Independent	*	Minus *** 3 =	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			

AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus ** =
Independent	*	Minus *** <i>Same</i>	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			

AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus ** =
Independent	*	Minus *** =	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			

SMALL ENTITY

OTHER THAN  
OR SMALL ENTITY

RATE

RATE

FEE

FEE

\$355.00

\$710.00

x \$11 =

x \$22 =

x 37 =

x 74 =

+ 115 =

+ 230 =

TOTAL

TOTAL *710*

SMALL ENTITY

OTHER THAN  
OR SMALL ENTITY

RATE

RATE

ADDITIONAL FEE

ADDITIONAL FEE

x \$11 =

x \$22 =

x 37 =

x 74 =

+ 115 =

+ 230 =

TOTAL

TOTAL ADDIT. FEE

RATE

RATE

ADDITIONAL FEE

ADDITIONAL FEE

x \$11 =

x \$22 =

x 37 =

x 74 =

+ 115 =

+ 230 =

TOTAL

TOTAL ADDIT. FEE

RATE

RATE

ADDITIONAL FEE

ADDITIONAL FEE

x \$11 =

x \$22 =

x 37 =

x 74 =

+ 115 =

+ 230 =

TOTAL

TOTAL ADDIT. FEE

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". ADDIT. FEE

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

**PACE DATA ENTRY CODING SHEET**

SEARCHED  
INDEXED  
SERIALIZED  
FILED  
APR 1 1991  
U.S. GOVERNMENT PRINTING OFFICE: 1991 50-130-1

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

**U.S. DEPARTMENT OF COMMERCE**  
Patent and Trademark Office

**PACE DATA ENTRY CODING SHEET**

Form PTO-1130  
(REV 2/94)

CONTINUITY DATA

PCT/FOREIGN APPLICATION DATA

28. The electro-optical device of Claim 27 wherein said electrolyte has the composition  $\text{Li}_x\text{PO}_y\text{N}_z$ , where x has an approximate value of 2.8,  $2y + 3z$  has an approximate value of 7.8 and z has a value between 0.16 and 0.46.

29. The electro-optical device of Claim 27 wherein said cathode is comprised of vanadium oxide having a fine-grain morphology.

30. A macroelectrochemical cell comprising a plurality of series connected electrochemical cells made according to Claim 8.

15

4. The cell of Claim 1 wherein the third conductive material is a metal oxide having an amorphous fine-grain morphology.

5. The cell of Claim 4 wherein the diameter of said grain is less than 1 micron.

6. The cell of Claim 1 wherein said electrolyte is an amorphous lithium phosphorus oxynitride.

7. The cell of Claim 1 wherein the electrolyte has the composition  $\text{Li}_x\text{PO}_y\text{N}_z$ , where  $x$  has an approximate value of 2.8,  $2y + 3z$  has an approximate value of 7.8 and  $z$  has a value between 0.16 and 0.46.

8. A method for making a thin-film electrochemical cell comprising the steps of:

a) depositing a first and a second horizontally displaced film of electrically conductive material on a substrate surface such that a portion of said substrate surface separates said first and second films, said first film larger than said second film;

b) depositing a third film of electrically conductive material on said first film;

c) depositing a fourth film of an electrolyte having nitrogen contained therein on said third film to overlap said third film, the overlap of said fourth film extending

onto said first film and partially onto said portion of said substrate separating said first and second films; and

15 d) depositing a fifth film of electrically conductive material over the remainder of said substrate separating said first and second films and over substantially all of said second and said fourth films.

9. The method of Claim 8 wherein said third film of electrically conductive material is an amorphous metal oxide.

10. The method of Claim 8 wherein the electrolyte has the composition  $\text{Li}_x\text{PO}_y\text{N}_z$ , where  $x$  has an approximate value of 2.8,  $2y + 3z$  has an approximate value of 7.8 and  $z$  has a value between 0.16 and 0.46.

11. The method of Claim 8 wherein all films but said fourth film are deposited by a technique selected from the group consisting of reactive dc magnetron sputtering, rf magnetron sputtering, diode sputtering, and thermal evaporation.

5 12. The method of Claim 8 wherein the fourth film is deposited by a technique selected from the group consisting of rf magnetron sputtering, diode sputtering, and thermal evaporation.

13. An electrolyte for an electrochemical cell comprising a material having nitrogen contained therein.

14. The electrolyte of Claim 13 wherein said material is lithium phosphorus oxynitride.

15. The electrolyte of Claim 13 comprising the composition  $\text{Li}_x\text{PO}_y\text{N}_z$ , where  $x$  is approximately equal to 2.8,  $2y + 3z$  is approximately equal to 7.8 and  $z$  has a value between 0.16 and 0.46.

16. A method for making an amorphous electrolyte for an electrochemical cell comprising the steps of:

a) selecting a sputtering apparatus for deposition of thin films;

5 b) selecting a target material for sputtering in said sputtering apparatus;

c) selecting a process gas for operation in said sputtering apparatus;

10 d) operating said sputtering apparatus at a total gas pressure of 20 milliTorr and a total gas flow rate of at least 14 sccm; and

e) depositing said electrolyte at an average rate of 8 Angstroms per minute.

17. The method of Claim 16 wherein said sputtering apparatus is chosen from the group consisting of rf magnetron sputterers and diode sputterers.

18. The method of Claim 16 wherein said sputtering target material is lithium orthophosphate.

19. The method of Claim 16 wherein said process gas is a pure Nitrogen gas.

20. A cathode for a thin-film electrochemical cell comprising an amorphous metal-oxide having a fine-grain morphology.

21. The cathode of Claim 20 wherein the diameter of said grain is less than 1 micron.

22. The cathode of Claim 20 wherein said metal-oxide is  $VO_x$  where  $x$  is a real number approximately equal to 2.5.

23. A method of making a cathode for a thin-film electrochemical cell comprising the steps of:

- a) selecting an unused sputtering target for use in a sputtering apparatus;
- 5 b) selecting a process gas mixture for operation in the sputtering apparatus;

PATENT APPLICATION SERIAL NO. 08/248935

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE  
FEE RECORD SHEET

DF11076 06/08/94 08248935 13-1958 110 101 710.00CH 957-X-7

COMBINED DECLARATION FOR PATENT APPLICATION  
AND  
POWER OF ATTORNEY

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below, next to my name.

I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

THIN FILM BATTERY AND METHOD FOR MAKING SAME

the specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby appoint the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith:

Harold W. Adams	Registration No. 19,101
George L. Craig	Registration No. 29,293
Ivan L. Ericson	Registration No. 29,302
J. Donald Griffin	Registration No. 25,730
Herman L. Holsopple	Registration No. 25,632
Joséph A. Marasco	Registration No. 32,798
Preston H. Smirman	Registration No. 35,365
James M. Spicer	Registration No. 26,096

All of:  
Martin Marietta Energy Systems, Inc.  
Post Office Box 2009  
Oak Ridge, Tennessee 37831-8243

Direct all correspondence and telephone calls to George L. Craig at (615) 576-9676.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

1-0

Full name of first inventor: John B. Bates

Inventor's signature: John B. Bates Date: 7/29/92

Residence: Oak Ridge, Tennessee

Citizenship: USA

Post Office Address: 116 Baltimore Drive, Oak Ridge, Tennessee 37830

2-0

Full name of second inventor: Nancy J. Dudney

Inventor's signature: Nancy J. Dudney Date: 7/29/92

Residence: Knoxville, Tennessee TN

Citizenship: USA

Post Office Address: 11634 Monticello Road, Knoxville, Tennessee 37922

3-0

Full name of third inventor: Greg R. Gruzalski

Inventor's signature: Greg R. Gruzalski Date: 7/29/92

Residence: Oak Ridge, Tennessee TN

Citizenship: USA

Post Office Address: 118 Monticello Road, Oak Ridge, Tennessee 37830

4-0

Full name of fourth inventor: Christopher F. Luck

Inventor's signature: Christopher F. Luck Date: 7-29-92

Residence: Knoxville, Tennessee TN

Citizenship: USA

Post Office Address: 904 Ponder Road, Knoxville, Tennessee 379823

BAR CODE LABEL		U.S. PATENT APPLICATION			
SERIAL NUMBER  08/248,935		FILING DATE  05/25/94 RULE 60	CLASS  029	GROUP ART UNIT  3206	
APPLICANT	JOHN B. BATES, OAK RIDGE, TN; NANCY J. DUDNEY, KNOXVILLE, TN; GREG R. GRUZALSKI, OAK RIDGE, TN; CHRISTOPHER F. LUCK, KNOXVILLE, TN.				
<p>**CONTINUING DATA*****</p> <p>VERIFIED THIS APPLN IS A DIV OF 07/921,538 07/29/92 PAT 5,338,625</p> <hr/> <p>**FOREIGN/PCT APPLICATIONS*****</p> <p>VERIFIED</p> <hr/>					
FOREIGN FILING LICENSE GRANTED 06/20/94					
STATE OR COUNTRY  TN	SHEETS DRAWING  0	TOTAL CLAIMS  3	INDEPENDENT CLAIMS  1	FILING FEE RECEIVED  \$710.00	ATTORNEY DOCKET NO.  957X7
ADDRESS  TITLE	GEORGE L. CRAIG MARTIN MARIETTA ENERGY SYSTEMS, INC. P. O. BOX 2009 OAK RIDGE, TN 37831-8243  THIN FILM BATTERY AND METHOD FOR MAKING SAME				
<p>This is to certify that annexed hereto is a true copy from the records of the United States Patent and Trademark Office of the application which is identified above.</p> <p>By authority of the COMMISSIONER OF PATENTS AND TRADEMARKS</p> <p>Date _____ Certifying Officer _____</p>					

9/1/94

S THIN AND FILM AND BATTERY

321232 THIN

245803 FILM

84166 BATTERY

L1 4697 THIN AND FILM AND BATTERY  
=> S THIN WITH FILM WITH BATTERY

321232 THIN

245803 FILM

84166 BATTERY

L2 34 THIN WITH FILM WITH BATTERY  
(THIN(1W) FILM(1W) BATTERY)

=> D L2 1-34

(1.) 5,342,709, Aug. 30, 1994, Battery utilizing ceramic membranes; Mark S. Yahnke, et al., 429/162, 247 [IMAGE AVAILABLE]

(2.) 5,338,625, Aug. 16, 1994, \*\*Thin\*\* \*\*film\*\* \*\*battery\*\* and method for making same; John B. Bates, et al., 429/193, 127 [IMAGE AVAILABLE]

3. 5,215,821, Jun. 1, 1993, Solid-state electrochromic device with proton-conducting polymer electrolyte and Prussian blue counterelectrode; Kuo-Chuan Ho, 428/432; 359/268, 269, 275; 428/688, 689, 697 [IMAGE AVAILABLE]

4. 5,208,121, May 4, 1993, Battery utilizing ceramic membranes; Mark S. Yahnke, et al., 429/162, 247 [IMAGE AVAILABLE]

5. 5,202,201, Apr. 13, 1993, Composite element having a titanium chalcogenide or oxychalcogenide layer, more particularly usable as the positive electrode in a thin film electrochemical cell; Georges Meunier, et al., 429/193; 204/192.15, 192.29; 359/265, 273; 428/689, 698, 701; 429/218 [IMAGE AVAILABLE]

6. 5,114,809, May 19, 1992, All solid-state lithium secondary battery; Yoshifumi Nakacho, et al., 429/192, 218 [IMAGE AVAILABLE]

7. 5,110,696, May 5, 1992, Rechargeable lithiated thin film intercalation electrode battery; Froug K. Shokoohi, et al., 429/218; 29/623.5; 423/594, 599, 641; 427/372.2; 429/224 [IMAGE AVAILABLE]

8. 5,110,694, May 5, 1992, Secondary Li battery incorporating 12-Crown-4 ether; Ganesan Nagasubramanian, et al., 429/192; 252/62.2 [IMAGE AVAILABLE]

9. 5,103,851, Apr. 14, 1992, Solar battery and method of manufacturing the same; Shoji Nishida, et al., 136/249, 258; 437/4, 89 [IMAGE AVAILABLE]

10. 5,100,821, Mar. 31, 1992, Semiconductor AC switch; Gary V. Fay, 437/47; 29/623.5; 429/7 [IMAGE AVAILABLE]

11. 5,030,331, Jul. 9, 1991, Process for preparing iridium oxide film; Yoshiyuki Sato, 205/107; 204/192.15; 205/188, 224; 427/585 [IMAGE AVAILABLE]

12. 5,011,751, Apr. 30, 1991, Electrochemical device; Sachiko Yoneyama,

et al., 429/192, 247 [IMAGE AVAILABLE]

13. 5,006,737, Apr. 9, 1991, Transformerless semiconductor AC switch having internal biasing means; Gary V. Fay, 307/571, 254, 296.1, 296.5, 311 [IMAGE AVAILABLE]

14. 4,977,007, Dec. 11, 1990, Solid electrochemical element and production process therefor; Shigeo Kondo, et al., 428/76; 264/104; 428/209, 323, 375, 408, 480, 516, 522; 429/127, 193, 217 [IMAGE AVAILABLE]

15. 4,936,924, Jun. 26, 1990, \*\*Thin\*\*\*film\*\* solar \*\*battery\*\* and its manufacturing method; Takahiko Inuzuka, 136/249; 437/2, 4 [IMAGE AVAILABLE]

16. 4,892,594, Jan. 9, 1990, Photovoltaic element; Ryoji Fujiwara, et al., 136/258; 257/53, 458, 749 [IMAGE AVAILABLE]

17. 4,876,628, Oct. 24, 1989, Thin film ion conducting coating; Ronald B. Goldner, et al., 361/313; 429/104 [IMAGE AVAILABLE]

18. 4,865,428, Sep. 12, 1989, Electrooptical device; Dennis A. Corrigan, 359/275 [IMAGE AVAILABLE]

19. 4,832,463, May 23, 1989, Thin film ion conducting coating; Ronald B. Goldner, et al., 359/275, 270 [IMAGE AVAILABLE]

20. 4,740,431, Apr. 26, 1988, Integrated solar cell and battery; Roger G. Little, 429/9; 136/244, 291 [IMAGE AVAILABLE]

21. 4,722,877, Feb. 2, 1988, Long cycle life solid-state solid polymer electrolyte cells; Anthony F. Sammells, 429/192, 218 [IMAGE AVAILABLE]

22. 4,689,874, Sep. 1, 1987, Process for fabricating a \*\*thin\*\*\*film\*\* solar \*\*battery\*\*; Masaharu Nishiura, 437/2; 136/244, 258; 437/7, 181, 226 [IMAGE AVAILABLE]

23. 4,672,586, Jun. 9, 1987, Semiconductor memory having circuit effecting refresh on variable cycles; Katsuhiro Shimohigashi, et al., 365/229, 189.09 [IMAGE AVAILABLE]

24. 4,645,726, Feb. 24, 1987, Solid state lithium battery; Masahiko Hiratani, et al., 429/191, 218 [IMAGE AVAILABLE]

25. 4,624,045, Nov. 25, 1986, Method of making thin film device; Shinichiro Ishihara, et al., 437/2; 136/244, 249, 258; 257/53; 437/51, 181 [IMAGE AVAILABLE]

26. 4,572,873, Feb. 25, 1986, Titanium disulfide thin film and process for fabricating the same; Keiichi Kanehori, et al., 428/432; 427/126.1, 255, 255.1; 428/698, 701 [IMAGE AVAILABLE]

27. 4,555,636, Nov. 26, 1985, Pattern detector; Hakubun Fujisawa, et al., 250/208.1; 257/443, 926; 348/294 [IMAGE AVAILABLE]

28. 4,555,456, Nov. 26, 1985, Cathode structure for \*\*thin\*\* \*\*film\*\* \*\*battery\*\*; Keiichi Kanehori, et al., 429/131, 218 [IMAGE AVAILABLE]

29. 4,181,619, Jan. 1, 1980, Antiwear composition; Robert H. Schmitt, et al., 252/32.5, 33, 75, 389.21 [IMAGE AVAILABLE]

30. 3,939,008, Feb. 17, 1976, Use of perovskites and perovskite-related compounds as battery cathodes; John M. Longo, et al., 429/206, 221, 223, 224, 229 [IMAGE AVAILABLE]

31. 3,928,067, Dec. 23, 1975, Polyalkylene glycol ethers in rechargeable lithium nonaqueous batteries; John Broadhead, et al., 429/194, 198, 199, 218 [IMAGE AVAILABLE]

32. 3,864,167, Feb. 4, 1975, Non-aqueous battery using chalcogenide electrode; John Broadhead, et al., 429/194, 199, 218 [IMAGE AVAILABLE]

33. 3,791,867, Feb. 12, 1974, RECHARGEABLE NONAQUEOUS BATTERY; John Broadhead, et al., 429/191, 194, 218 [IMAGE AVAILABLE]

34. 3,708,344, Jan. 2, 1973, ORGANIC DEPOLARIZER; Philip Bernstein, 429/201, 213 [IMAGE AVAILABLE]

W

A

A

A

I

F

P

Paragraph

Thin (W) Film

File - Thin

Thin Film

Thin (A) Film

Thin Film

\*  
\* The APS is available:  
\* 6:30am - 9:00pm Monday through Friday  
\* 7:30am - 5:00pm Saturday, Sunday, Holidays  
\*  
\* APS is unavailable Thanksgiving Day, Christmas Day,  
\* and New Year's Day.  
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FILE 'USPAT' ENTERED AT 11:23:53 ON 20 NOV 94

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
\* W E L C O M E T O T H E \*  
\* U. S. P A T E N T T E X T F I L E \*  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
=> s oxynitride lithium  
1564 OXYNITRIDE  
68632 LITHIUM  
L1 1 OXYNITRIDE LITHIUM  
(OXYNITRIDE(W) LITHIUM)

=> d 11 1

1. 5,338,625, Aug. 16, 1994, Thin film battery and method for  
making same; John B. Bates, et al., 429/193, 127 [IMAGE  
AVAILABLE]

=> s transparent anode  
144274 TRANSPARENT  
58810 ANODE  
L2 130 TRANSPARENT ANODE  
(TRANSPARENT(W) ANODE)

=> s transparent cathode  
144274 TRANSPARENT  
82060 CATHODE  
L3 29 TRANSPARENT CATHODE  
(TRANSPARENT(W) CATHODE)

=> s transparent electrochromic  
144274 TRANSPARENT  
1419 ELECTROCHROMIC  
L4 33 TRANSPARENT ELECTROCHROMIC  
(TRANSPARENT(W) ELECTROCHROMIC)

=> s transparent electrolyte  
144274 TRANSPARENT  
30848 ELECTROLYTE  
L5 46 TRANSPARENT ELECTROLYTE  
(TRANSPARENT(W) ELECTROLYTE)

=> s 12 and 13 and 14 and 15  
L6 0 L2 AND L3 AND L4 AND L5

=> s 12 and 13 and 14

L7            0 L2 AND L3 AND L4

=> s 12 and 13 and 15

L8            0 L2 AND L3 AND L5

=> s 12 and 13

L9            7 L2 AND L3

=> d 19 1-7

1. 5,061,569, Oct. 29, 1991, Electroluminescent device with organic electroluminescent medium; Steven A. VanSlyke, et al., 428/457; 252/301.16; 313/504, 506; 428/515, 690, 917 [IMAGE AVAILABLE]

2. 4,950,950, Aug. 21, 1990, Electroluminescent device with silazane-containing luminescent zone; Robert J. Perry, et al., 313/504, 506; 428/690, 917 [IMAGE AVAILABLE]

3. 4,885,211, Dec. 5, 1989, Electroluminescent device with improved cathode; Ching W. Tang, et al., 428/457; 252/301.16; 313/346R, 498, 504, 506, 507; 428/411.1, 461, 515, 917 [IMAGE AVAILABLE]

4. 4,769,292, Sep. 6, 1988, Electroluminescent device with modified thin film luminescent zone; Ching W. Tang, et al., 428/690; 313/504; 428/917 [IMAGE AVAILABLE]

5. 4,720,432, Jan. 19, 1988, Electroluminescent device with organic luminescent medium; Steven A. VanSlyke, et al., 428/457; 252/301.16; 257/40, 103; 313/498, 504, 506, 509; 428/411.1, 461, 515, 917 [IMAGE AVAILABLE]

6. 4,360,763, Nov. 23, 1982, Method and device for control of great currents particularly of the pulse type; Michal Gryzinski, 315/111.01; 200/144B; 313/231.01; 315/344 [IMAGE AVAILABLE]

7. 4,045,677, Aug. 30, 1977, Intense ion beam generator; Stanley Humphries, Jr., et al., 250/423R; 315/111.81 [IMAGE AVAILABLE]

=> s 19 and electrochromic

1419 ELECTROCHROMIC

L10            0 L9 AND ELECTROCHROMIC

=> s 19 and lithium

68632 LITHIUM

L11            5 L9 AND LITHIUM

=> d 111 1-5

1. 5,061,569, Oct. 29, 1991, Electroluminescent device with organic electroluminescent medium; Steven A. VanSlyke, et al., 428/457; 252/301.16; 313/504, 506; 428/515, 690, 917 [IMAGE AVAILABLE]

2. 4,950,950, Aug. 21, 1990, Electroluminescent device with silazane-containing luminescent zone; Robert J. Perry, et al.,

313/504, 506; 428/690, 917 [IMAGE AVAILABLE]

3. 4,885,211, Dec. 5, 1989, Electroluminescent device with improved cathode; Ching W. Tang, et al., 428/457; 252/301.16; 313/346R, 498, 504, 506, 507; 428/411.1, 461, 515, 917 [IMAGE AVAILABLE]

4. 4,769,292, Sep. 6, 1988, Electroluminescent device with modified thin film luminescent zone; Ching W. Tang, et al., 428/690; 313/504; 428/917 [IMAGE AVAILABLE]

5. 4,720,432, Jan. 19, 1988, Electroluminescent device with organic luminescent medium; Steven A. VanSlyke, et al., 428/457; 252/301.16; 257/40, 103; 313/498, 504, 506, 509; 428/411.1, 461, 515, 917 [IMAGE AVAILABLE]

=> s 19 and smart window?

2216 SMART

111108 WINDOW?

28 SMART WINDOW?

(SMART(W)WINDOW?)

L12 0 L9 AND SMART WINDOW?

=> s smart window?

2216 SMART

111108 WINDOW?

L13 28 SMART WINDOW?

(SMART(W)WINDOW?)

=> s l13 and anode and cathode

58810 ANODE

82060 CATHODE

L14 2 L13 AND ANODE AND CATHODE

=> d l14 1-2

1. 5,351,151, Sep. 27, 1994, Optical filter using microlens arrays; George S. Levy, 359/240, 237, 252, 256, 259, 275, 276, 282, 284, 419 [IMAGE AVAILABLE]

2. 5,338,625, Aug. 16, 1994, Thin film battery and method for making same; John B. Bates, et al., 429/193, 127 [IMAGE AVAILABLE]

=> s l13 and electrolyte

30848 ELECTROLYTE

L15 14 L13 AND ELECTROLYTE

=> s l15 and lithium

68632 LITHIUM

L16 10 L15 AND LITHIUM

=> s l16 and vanadium oxide

22589 VANADIUM

240069 OXIDE

L7            0 L2 AND L3 AND L4

=> s 12 and 13 and 15  
L8            0 L2 AND L3 AND L5

=> s 12 and 13  
L9            7 L2 AND L3

=> d 19 1-7

1. 5,061,569, Oct. 29, 1991, Electroluminescent device with organic electroluminescent medium; Steven A. VanSlyke, et al., 428/457; 252/301.16; 313/504, 506; 428/515, 690, 917 [IMAGE AVAILABLE]

2. 4,950,950, Aug. 21, 1990, Electroluminescent device with silazane-containing luminescent zone; Robert J. Perry, et al., 313/504, 506; 428/690, 917 [IMAGE AVAILABLE]

3. 4,885,211, Dec. 5, 1989, Electroluminescent device with improved cathode; Ching W. Tang, et al., 428/457; 252/301.16; 313/346R, 498, 504, 506, 507; 428/411.1, 461, 515, 917 [IMAGE AVAILABLE]

4. 4,769,292, Sep. 6, 1988, Electroluminescent device with modified thin film luminescent zone; Ching W. Tang, et al., 428/690; 313/504; 428/917 [IMAGE AVAILABLE]

5. 4,720,432, Jan. 19, 1988, Electroluminescent device with organic luminescent medium; Steven A. VanSlyke, et al., 428/457; 252/301.16; 257/40, 103; 313/498, 504, 506, 509; 428/411.1, 461, 515, 917 [IMAGE AVAILABLE]

6. 4,360,763, Nov. 23, 1982, Method and device for control of great currents particularly of the pulse type; Michal Gryzinski, 315/111.01; 200/144B; 313/231.01; 315/344 [IMAGE AVAILABLE]

7. 4,045,677, Aug. 30, 1977, Intense ion beam generator; Stanley Humphries, Jr., et al., 250/423R; 315/111.81 [IMAGE AVAILABLE]

=> s 19 and electrochromic  
            1419 ELECTROCHROMIC  
L10        0 L9 AND ELECTROCHROMIC

=> s 19 and lithium  
            68632 LITHIUM  
L11        5 L9 AND LITHIUM

=> d 111 1-5

1. 5,061,569, Oct. 29, 1991, Electroluminescent device with organic electroluminescent medium; Steven A. VanSlyke, et al., 428/457; 252/301.16; 313/504, 506; 428/515, 690, 917 [IMAGE AVAILABLE]

2. 4,950,950, Aug. 21, 1990, Electroluminescent device with silazane-containing luminescent zone; Robert J. Perry, et al.,

313/504, 506; 428/690, 917 [IMAGE AVAILABLE]

3. 4,885,211, Dec. 5, 1989, Electroluminescent device with improved cathode; Ching W. Tang, et al., 428/457; 252/301.16; 313/346R, 498, 504, 506, 507; 428/411.1, 461, 515, 917 [IMAGE AVAILABLE]

4. 4,769,292, Sep. 6, 1988, Electroluminescent device with modified thin film luminescent zone; Ching W. Tang, et al., 428/690; 313/504; 428/917 [IMAGE AVAILABLE]

5. 4,720,432, Jan. 19, 1988, Electroluminescent device with organic luminescent medium; Steven A. VanSlyke, et al., 428/457; 252/301.16; 257/40, 103; 313/498, 504, 506, 509; 428/411.1, 461, 515, 917 [IMAGE AVAILABLE]

=> s 19 and smart window?

2216 SMART

111108 WINDOW?

28 SMART WINDOW?

(SMART (W) WINDOW?)

L12 0 L9 AND SMART WINDOW?

=> s smart window?

2216 SMART

111108 WINDOW?

L13 28 SMART WINDOW?

(SMART (W) WINDOW?)

=> s 113 and anode and cathode

58810 ANODE

82060 CATHODE

L14 2 L13 AND ANODE AND CATHODE

=> d 114 1-2

1. 5,351,151, Sep. 27, 1994, Optical filter using microlens arrays; George S. Levy, 359/240, 237, 252, 256, 259, 275, 276, 282, 284, 419 [IMAGE AVAILABLE]

2. 5,338,625, Aug. 16, 1994, Thin film battery and method for making same; John B. Bates, et al., 429/193, 127 [IMAGE AVAILABLE]

=> s 113 and electrolyte

30848 ELECTROLYTE

L15 14 L13 AND ELECTROLYTE

=> s 115 and lithium

68632 LITHIUM

L16 10 L15 AND LITHIUM

=> s 116 and vanadium oxide

22589 VANADIUM

240069 OXIDE

L7            0 L2 AND L3 AND L4

=> s 12 and 13 and 15  
L8            0 L2 AND L3 AND L5

=> s 12 and 13  
L9            7 L2 AND L3

=> d 19 1-7

1. 5,061,569, Oct. 29, 1991, Electroluminescent device with organic electroluminescent medium; Steven A. VanSlyke, et al., 428/457; 252/301.16; 313/504, 506; 428/515, 690, 917 [IMAGE AVAILABLE]

2. 4,950,950, Aug. 21, 1990, Electroluminescent device with silazane-containing luminescent zone; Robert J. Perry, et al., 313/504, 506; 428/690, 917 [IMAGE AVAILABLE]

3. 4,885,211, Dec. 5, 1989, Electroluminescent device with improved cathode; Ching W. Tang, et al., 428/457; 252/301.16; 313/346R, 498, 504, 506, 507; 428/411.1, 461, 515, 917 [IMAGE AVAILABLE]

4. 4,769,292, Sep. 6, 1988, Electroluminescent device with modified thin film luminescent zone; Ching W. Tang, et al., 428/690; 313/504; 428/917 [IMAGE AVAILABLE]

5. 4,720,432, Jan. 19, 1988, Electroluminescent device with organic luminescent medium; Steven A. VanSlyke, et al., 428/457; 252/301.16; 257/40, 103; 313/498, 504, 506, 509; 428/411.1, 461, 515, 917 [IMAGE AVAILABLE]

6. 4,360,763, Nov. 23, 1982, Method and device for control of great currents particularly of the pulse type; Michal Gryzinski, 315/111.01; 200/144B; 313/231.01; 315/344 [IMAGE AVAILABLE]

7. 4,045,677, Aug. 30, 1977, Intense ion beam generator; Stanley Humphries, Jr., et al., 250/423R; 315/111.81 [IMAGE AVAILABLE]

=> s 19 and electrochromic  
L10            1419 ELECTROCHROMIC  
               0 L9 AND ELECTROCHROMIC

=> s 19 and lithium  
               68632 LITHIUM  
L11            5 L9 AND LITHIUM

=> d 111 1-5

1. 5,061,569, Oct. 29, 1991, Electroluminescent device with organic electroluminescent medium; Steven A. VanSlyke, et al., 428/457; 252/301.16; 313/504, 506; 428/515, 690, 917 [IMAGE AVAILABLE]

2. 4,950,950, Aug. 21, 1990, Electroluminescent device with silazane-containing luminescent zone; Robert J. Perry, et al.,

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
=> s (phosphorus or P) (4a) (oxynitride or no) (4a) (lithium or li)  
53950 PHOSPHORUS  
472558 P

1564 OXYNITRIDE  
1462158 NO

68632 LITHIUM  
21130 LI

L1 45 (PHOSPHORUS OR P) (4A) (OXYNITRIDE OR NO) (4A) (LITHIUM OR  
LI)

=> s l1 and electrolyte  
30848 ELECTROLYTE

L2 6 L1 AND ELECTROLYTE

=> d 12 1-6

1. 5,338,625, Aug. 16, 1994, Thin film battery and method for making  
same; John B. Bates, et al., 429/193, 127 [IMAGE AVAILABLE]

2. 5,314,765, May 24, 1994, Protective lithium ion conducting ceramic  
coating for lithium metal anodes and associate method; John B. Bates,  
429/194; 29/623.5; 429/48, 218 [IMAGE AVAILABLE]

3. 5,288,678, Feb. 22, 1994, Indirect potentiometric method and diluent  
for analysis of lithium; Frank R. Shu, et al., 436/18; 204/153.15;  
436/79, 150, 179 [IMAGE AVAILABLE]

4. 5,114,809, May 19, 1992, All solid-state lithium secondary battery;  
Yoshifumi Nakacho, et al., 429/192, 218 [IMAGE AVAILABLE]

5. 5,110,742, May 5, 1992, Indirect potentiometric method and diluent  
for analysis of lithium; Frank R. Shu, et al., 436/18; 204/153.15;  
436/150, 182 [IMAGE AVAILABLE]

6. 4,961,859, Oct. 9, 1990, Method of treating an aqueous processing  
waste solution of a non-silver halide light-sensitive material and a  
device therefor; Masafumi Uehara, et al., 210/725; 159/47.3; 203/14;  
210/178, 182, 207, 724, 727, 734, 737, 774, 787, 803 [IMAGE AVAILABLE]  
=> s l1 and electrochromic

1419 ELECTROCHROMIC

L3 1 L1 AND ELECTROCHROMIC  
=> d 13 1

1. 5,338,625, Aug. 16, 1994, Thin film battery and method for making  
same; John B. Bates, et al., 429/193, 127 [IMAGE AVAILABLE]  
=> s lithium phosphorus oxynitride.

68632 LITHIUM  
53950 PHOSPHORUS

1564 OXYNITRIDE

L4 2 LITHIUM PHOSPHORUS OXYNITRIDE  
(LITHIUM(W) PHOSPHORUS(W) OXYNITRIDE)

=> d 14 1-2

1. 5,338,625, Aug. 16, 1994, Thin film battery and method for making  
same; John B. Bates, et al., 429/193, 127 [IMAGE AVAILABLE]

2. 5,314,765, May 24, 1994, Protective lithium ion conducting ceramic coating for lithium metal anodes and associate method; John B. Bates,  
429/194; 29/623.5; 429/48, 218 [IMAGE AVAILABLE]

=> logoff y

U.S. Patent & Trademark Office LOGOFF AT 08:35:41 ON 21 NOV 94

<b>APPLICATION TRANSFER REQUEST</b>		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE
Staple to Front of Application		
<b>Section I. APPLICATION TRANSFER REQUEST</b>		
TO:	Receiving A.U.	Date
FROM:	Originating A.U.	SN.
REASON:	<input checked="" type="checkbox"/> Request for Reconsideration <input type="checkbox"/> (Return to Classification)  <i>claims 27-29 are not here</i>	
<b>Section II. DISPOSITION BY RECEIVING A.U.</b>		
<input type="checkbox"/> Accepted (Keep in Receiving A.U.) <input checked="" type="checkbox"/> Not Accepted <input type="checkbox"/> Forward to <i>Chem. Doc.</i> <input type="checkbox"/> Return to Originating A.U.  <i>Approved to be 35912651 for application</i>		
Classification Group <input type="checkbox"/> Nonclassification issue only: <input type="checkbox"/> Restriction <input type="checkbox"/> Other <i>Other</i> <i>J. Miller</i>		
<b>Section III. DISPOSITION BY</b>		
Classification Group <input checked="" type="checkbox"/> Transfer Approved-Forward to A.U. <i>111</i> Class/sub <i>42924</i> Classifier <i>J. Miller</i> <input type="checkbox"/> Transfer Disapproved-Forward to Originating A.U. <i>111</i> Concurring <i>J. Miller</i> <input type="checkbox"/> Other <i>Approved application. Please consider for filing.</i>		
REASON:		

APPLICATION TRANSFER REQUEST

FORM PTO-47A

Stable to Front of Application

*6/13*  
**Section I. APPLICATION TRANSFER REQUEST** Date 9/1/94 S.N. 08/248,935

TO: Receiving ~~Att.~~ Chem. Doc. Class/sub \_\_\_\_\_ Examiner \_\_\_\_\_  
FROM: Originating A.U. 111 Class/sub \_\_\_\_\_ Examiner \_\_\_\_\_

REASON:

*Claims 1-26 and 30 have been cancelled. The only claims under consideration are claims 27-29. The claims are not directed to the final batteries. Please reconsider 359/265 as a place for these claims.*

**Section II. POSITION BY RECEIVING A.U.**

Accepted (keep in receiving A.U.)

Not Accepted  Forward to

Return to Originating A.U. \_\_\_\_\_

Classification Group \_\_\_\_\_

Date \_\_\_\_\_

Restriction  
 Other

REASON:

Nonclassification issue raised:  Restriction  
 Other

REASON:

Classifier \_\_\_\_\_

Nonclassification issue raised:  Restriction  
 Other

*All that is recited in claim 27-29 is a their own battery. No other pertinent structure for 359,*

**Section III. DISPOSITION BY** C/E **Classification Group:** 9/14/94 **Date:** 9/14/94  
 Transfer Approved-Forward to A.U. 429 **Class/sub:** 429 **Classifier:** J. Chritz  
 Transfer Disapproved-Forward to Originating A.U. 111 **Concurring:** \_\_\_\_\_

## APPLICATION TRANSFER REQUEST

Staple to Front of Application

**Section I. APPLICATION TRANSFER REQUEST** Date 8/22/94 S.N. 09/248,935

TO: Receiving Chen, D.C. Class/sub 429 Examiner ?  
 FROM: Originating A.U. 111 Class/sub 429 Examiner ?

## REASON:

The claims under consideration are 27-29 claims 1-26 and 30 will be cancelled. There is not sufficient history to fracture remaining claim 27-29 to warrant classification in 329. It is suggested that the classifier reexamine the suggested 359 classification after the patent comes in with 359 classification. Please provide explanation and any claims if they are accepted.

**Section II. DISPOSITION BY RECEIVING A.U.**

Accepted (keep in receiving A.U.)  
 Not Accepted  Forward to \_\_\_\_\_  
 Return to Originating A.U. \_\_\_\_\_

## REASON:

Classification Group \_\_\_\_\_  
 Nonclassification issue only:  
 Restriction  
 Other

**Section III. DISPOSITION BY C/E** Classification Group. Date 9/11/94  
 Class/sub 429 Classifier F. Ober  
 Transfer Approved-Forward to Originating A.U. 111 Concurring \_\_\_\_\_

## REASON:

Nonclassification issue raised:  Restriction  
 Other

See APS search or thin film batteries.  
 Search shows there is considerable art in  
 429. See e.g. 5/14/809 533625, 5342409.



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
ASSISTANT SECRETARY AND COMMISSIONER OF  
PATENTS AND TRADEMARKS  
Washington, D.C. 20231

#9

George L. Craig  
Martin Marietta Energy Systems, Inc.  
P.O. Box 2009  
Oak Ridge, TN 37831-8243

MAILED

SEP 20 1995

GROUP 1100

Serial No. 08/248,935 : DECISION ON PETITION  
Filed: May 25, 1994 :  
For: An Electro-Optical Device :  
Including A Nitrogen Containing:  
Electrolyte :

This is a decision on the Petition, filed August 14, 1995, to delete Inventors under 37 CFR 1.48.

The Petition is GRANTED.

In view of the papers filed August 14, 1995, it has been found that this application, as filed, through error and without any deceptive intent, improperly set forth the inventorship, and accordingly, this application has been corrected in compliance with 37 CFR 1.48(a). The Inventorship of this application has been changed by deletion of inventors Christopher F. Luck and Greg R. Gruzalski.

The Petition is GRANTED.

The application is being forwarded to Application Branch for correction of data on the front jacket of the file.

*John Niebling*  
John Niebling  
Supervisory Primary Examiner  
Patent Examining Group 1100



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

DIVISION patent application  
of Parent Patent Application  
Serial No. 07/921,538 filed  
July 29, 1992, and issued  
August 16, 1994 as U.S.  
Patent No. 5, 338, 625

Applicants: John B. Bates  
Nancy J. Dudney

**RECEIVED**

AUG 23 1995

**GROUP 1100**

Serial No.: 08/248,935

Docket No.: 957-X-7

Filing Date: June 29, 1994

Examiner: B. Bell

Art Unit: 1102

Title: **A ELECTRO-OPTICAL DEVICE**

**PETITION AND FEE DELETING CORRECTLY NAMED ORIGINAL PERSON(S) WHO  
ARE NOT INVENTOR(S) OF INVENTION NOW BEING CLAIMED (37 CFR 1.48(b))**

Honorable Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

Sir:

This petition under 37 CFR 1.48(b) is to delete the names of the following persons originally named as inventors in the parent application and who are not the inventors of the invention now being claimed:

Christopher F. Luck  
Greg R. Gruzalski

The claims in this application are as follows:

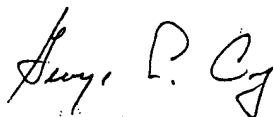
Claims 1-26 and 30 were cancelled and Claims 27-29 remained of the original  
Claims 1-30 upon filing this application as a divisional application on May 25, 1994.

This petition is being filed diligently after discovery of any claim(s) for which the above-named inventors, who are now being deleted, are now no longer the inventors of the subject matter being claimed. The facts involved are now set forth as follows:

**RECEIVED**

In the Office Action on the parent application dated 28 May 1993, the Examiner issued a restriction to the filed claims under 35 USC 121 as follows: Group I (Claims 1-7 and 30) drawn to an electrochemical cell; Group II (Claims 8-12) drawn to a method for making an electrochemical cell; Group III (Claims 13-15) drawn to an electrolyte; Group IV (Claims 16-19) drawn to a method for making an electrolyte; Group V (Claims 20-22) drawn to a cathode; Group VI (Claims 23-26) drawn to a method of making a cathode; and Group VII (Claims 27-29) drawn to an electro-optical device. Accordingly, Applicants cancelled Claims 8-29 and elected to first prosecute the claims of Group I. Applicants also filed divisional applications on each of the other Groups of Claims. In the present application directed to the Group VII Claims, upon cancellation of the non-elected Claims 1-26 and 30, Christopher F. Luck and Greg R. Gruzalski are no longer inventors of the remaining claims 27-29. Therefore, this formal petition to delete Christopher F. Luck and Greg R. Gruzalski as inventors is being diligently submitted.

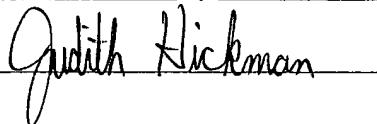
Applicants respectfully submit that this petition for change of inventorship was not the result of error on Applicants' part since the cover sheet of the preliminary amendment and the post card accompanying the amendment and application for filing the divisional application (attached) correctly name the proper inventors of the claimed subject matter. However, if such a petition fee for correction of inventorship should be required, please charge the fee required by 37 CFR 1.17(h) to Deposit Account 13-1958.



George L. Craig, Esq.  
Patent Counsel  
Reg. No. 29,293  
Lockheed Martin Energy Systems, Inc.  
Post Office Box 2009  
Oak Ridge, Tennessee 37831-8243  
Telephone No. (615) 576-9676  
Facsimile No. (615) 574-0381

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First-Class Mail in an envelope addressed to Commissioner of Patents and Trademarks, Washington, D.C. 20231, on August 10, 1995, by Judith Hickman.



RECEIVED

MAR 23 1993

GPO 1100

DOCKET NO.: 957-X-7

APPLICANTS: John B. Bates and Nancy J. Dunney  
TITLE: AL ELECTRO-OPTICAL DEVICE

Divisional Patent Application of U.S. Patent Application  
Serial No. 07/921,538 filed July 29, 1992.

The date-stamping of this card acknowledges receipt of  
the following:

- 1) Request for Filing a Patent Application Under  
37 CFR 1.60
- 2) Preliminary Amendment
- 3) Copy - U.S. Patent Application Serial No. 07/921,538
- 4) Copy - Combined Declaration and Power of Attorney



08/248935

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Division patent application of  
U.S. Patent Application Serial  
No. 07/921,538 filed 29 July 1992



Docket No.: 957-X-7

Examiner: S. Barts

Art Unit: 1204

John B. Bates  
Nancy J. Dudney

Serial No.:

RECEIVED

Filing Date:

AUG 25 1995

Title: **THIN FILM BATTERY AND  
METHOD FOR MAKING SAME**

GROUP 100

**PRELIMINARY AMENDMENT UNDER 37 C.F.R. 1.115**

Honorable Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

Sir:

Submitted herewith is a preliminary amendment under 37 C.F.R. 1.115 requesting that the specification and claims of the present divisional patent application be amended as follows:

In the Specification

Delete the title and substitute --An Electro-Optical Device--.

Page 1, before the first sentence of the first paragraph, insert --This application is a division of application Serial No. 07/921,538, filed 29 July 1992, presently pending.--

In the Claims

Please cancel Claims 1-26 and 30.

*instab... nat... of si... of wh... re... an...*

**PART B—ISSUE FEE TRANSMITTAL**

**MAILING INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE. Blocks 2 through 6 should be completed where appropriate. All further correspondence including the Issue Fee Receipt, the Patent, advance orders and notification of maintenance fees will be mailed to addressee entered in Block 1 unless you direct otherwise, by: (a) specifying a new correspondence address in Block 3 below; or (b) providing the PTO with a separate "FEE ADDRESS" for maintenance fee notifications with the payment of Issue Fee or thereafter. See reverse for Certificate of Mailing.

1. CORRESPONDENCE ADDRESS

GEORGE L. CRAIG  
MARTIN MARIETTA ENERGY SYSTEMS, INC.  
P. O. BOX 2009  
OAK RIDGE, TN 37831-8243

DIM1/0317

2. INVENTOR(S) ADDRESS CHANGE (Complete only if there is a change)

INVENTOR'S NAME

Street Address

City, State and ZIP Code

CO-INVENTOR'S NAME

Street Address

City, State and ZIP Code

Check if additional changes are on reverse side

SERIES CODE/SERIAL NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/249,935	05/25/94	003	BELL, R.	1102 02/17/94

First Named Applicant

DATES:

JOHN (B)

TITLE OF INVENTION

AN ELECTRA-OPTICAL DEVICE INCLUDING A NITROGEN CONTAINING ELECTROLYTE  
(AS AMENDED)

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEES DUE	DATE DUE
1 957X7	429-127.000	J79	UTILITY	NO	\$1,210.00	06/19/95

3. Correspondence address change (Complete only if there is a change)

Harold W. Adams  
Associate General Counsel for Intellectual Property  
Lockheed Martin Energy Systems, Inc.  
P.O. Box 2009  
Oak Ridge, TN 37831-8243

4. For printing on the patent front page, list the names of not more than 3 registered patent attorneys or agents OR, alternatively, the name of a firm having as a member a registered attorney or agent. If no name is listed, no name will be printed.

1 George L. Craig  
2 James M. Spicer  
3 Harold W. Adams

DO NOT USE THIS SPACE

TL60730 07/20/95 08248935

13-1958 060 142 1,210.00CH

TL60731 07/20/95 08248935

13-1958 060 561 30.00CH

5. ASSIGNMENT DATA TO BE PRINTED ON THE PATENT (print or type)

(1) NAME OF ASSIGNEE: Martin Marietta Energy Systems, Inc.

(2) ADDRESS: (CITY & STATE OR COUNTRY)

Oak Ridge, Tennessee

6a. The following fees are enclosed:

Issue Fee  Advance Order - # of Copies 10

6b. The following fees should be charged to:

DEPOSIT ACCOUNT NUMBER 13-1958

(ENCLOSE PART C)

Issue Fee  Advance Order - # of Copies 10

Any Deficiencies in Enclosed Fees

The COMMISSIONER OF PATENTS AND TRADEMARKS is requested to apply the Issue Fee to the application identified above.

(Authorized Signature)

*Pratish*

(Date)

6/16/95

NOTE: The Issue Fee will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the Patent and Trademark Office.

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B  
JUN 22 1993

PTOL-85C (REV.12-93)(0651-0033)

For PART C - CHARGE TO DEPOSIT ACCOUNT

1. CORRESPONDENCE ADDRESS:

DIM1/0317

GEORGE L. CRATIG  
MARTIN MARIETTA ENERGY SYSTEMS, INC.  
P. O. BOX 2009  
OAK RIDGE, TN 37831-8243

SERIES CODE/SERIAL NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/22/93 08248935	07/20/93	002	RELL, S	1102 03/17/94

First Named  
Applicant

NAME: JOHN G.

TITLE OF  
INVENTION

AN ELECTRO-OPTICAL DEVICE INCLUDING A NITROGEN CONTAINING ELECTROLYTE  
(AS AMENDED)

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEES DUE	DATE DUE
09/22/93 08248935	429-127-000	178	UTILITY	NO	\$1210.00	03/17/94

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TL60730 07/20/93 08248935  
TL60731 07/20/93 08248935  
13-1958 060 142 1,210.00CH  
13-1958 060 541 30.00CH

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Issue Fee       Advance Order - # of Copies 10  
 Any Deficiencies in Enclosed Fees

The COMMISSIONER OF PATENTS AND TRADEMARKS is  
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(Authorized Signature)

*Preston Smith*

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2. TRANSMIT THIS FORM WITH PART B WHEN AUTHORIZING USE OF A DEPOSIT ACCOUNT

**PART C - CHARGE TO DEPOSIT ACCOUNT**

*SEARCHED* *INDEXED* *FILED* *MAILED*

1. CORRESPONDENCE ADDRESS  
 GEORGE L. CRAIG  
 MARTIN MARIETTA ENERGY SYSTEMS, INC.  
 P. O. BOX 2009  
 OAK RIDGE, TN 37831-9243

D1M1/0317

SERIES CODE/SERIAL NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP/ART UNIT	DATE MAILED		
02/13/93 6025	07/20/93	092	RELL 12	1102 03/17/95		
First Named Applicant	RATED	JOHN D.				
TITLE OF INVENTION ON ELECTRA-OPTICAL DEVICE INCLUDING A NITROGEN CONTAINING ELECTROLYTE (AS AMENDED)						
ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEES DUE	DATE DUE
1 10512347	4229 1027-0009	178	UTILITY	NO	\$1210.00	03/17/95
DO NOT USE THIS SPACE						
TL60230 07/20/93 08248935	13-1958	060	142	1,210.00CH		
TL60231 07/20/93 08248935	13-1958	060	561	30.00CH		
2a. The following fees are enclosed: <input checked="" type="checkbox"/> Issue Fee <input checked="" type="checkbox"/> Advance Order - # of Copies 10 2b. The following fees should be charged to: DEPOSIT ACCOUNT NUMBER 13-1958 <input checked="" type="checkbox"/> Issue Fee <input checked="" type="checkbox"/> Advance Order - # of Copies 10 <input checked="" type="checkbox"/> Any Deficiencies in Enclosed Fees The COMMISSIONER OF PATENTS AND TRADEMARKS IS REQUESTED TO APPLY THE ISSUE FEE TO THE APPLICATION IDENTIFIED ABOVE. (Authorized Signature) <i>Patent Office</i> <i>Note: The Issue Fee will not be accepted from anyone other than the applicant, a registered attorney or agent, or the assignee or other party in interest as shown by the records of the Patent and Trademark Office.</i>						
2. TRANSMIT THIS FORM WITH PART B WHEN AUTHORIZING USE OF A DEPOSIT ACCOUNT						

### Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

Box ISSUE FEE  
Commissioner of Patents and Trademarks  
Washington, D.C. 20231

on June 19, 1995

(Date)

Judith Hickman  
(Name of person making deposit)

Judith Hickman  
(Signature)

6/19/95  
(Date)

Note: If this certificate of mailing is used, it can only be used to transmit the Issue Fee. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing.

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**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: Box ISSUE FEE  
COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

電能供應公司（ELECTRICITY SUPPLY COMMISSION）  
電能供應公司（ELECTRICITY SUPPLY COMMISSION）  
電能供應公司（ELECTRICITY SUPPLY COMMISSION）

**NOTICE OF ALLOWANCE  
AND ISSUE FEE DUE**

Note attached communication from the Examiner  
 This notice is issued in view of applicant's communication filed

SERIES CODE/SERIAL NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
------------------------	-------------	--------------	-----------------------------	-------------

**First Named  
Applicant**

**TITLE OF  
INVENTION**

GRUPO EDITORIAL CUMBRE, S.A. DE C.V. RESERVA LOS DERECHOS. REVISTA MENSUAL. ISSN 0185-1050. REGISTRO NÚMERO 001-00001-00000-00000.

THE COUNCIL OF THE CONFEDERATION OF THE SOVIET SOCIALIST REPUBLICS OF THE UNION

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT.**  
**PROSECUTION ON THE MERITS IS CLOSED.**

**THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.**

***HOW TO RESPOND TO THIS NOTICE:***

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III. All communications regarding this application must give series code (or filing date), serial number and batch number. Please direct all communication prior to issuance to Box ISSUE FEE unless advised to contrary.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, pay of 1/2 the FEE DUE shown above.

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